Trust Management Improvement Project

Computer and Business Systems Architecture

Current Systems and Technology: Information Resource Catalog

June 30, 2000

United States Department of the Interior

Current Systems and Technology

Information Resource Catalog (IRC)

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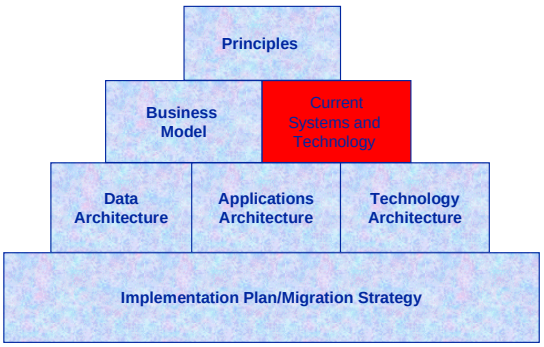
Background

The U.S. Department of Interior issued the Computer and Business Systems Architecture Framework Plan in February 2000. The plan was developed as an integral part of the Indian Trust Management Improvement Project and follows the general framework, referred to as Enterprise Architecture Planning (EAP), developed by Dr. Steven Spewak. EAP builds on previous work published by John A. Zachman in the IBM *Systems Journal* in an article entitled "*A Framework for Information Systems Architecture*." Dr. Spewak has taken a relatively complex subject and built a practical step-by-step methodology for information architecture planning. His approach is endorsed by the Government's Chief Information Officers Council as published in the "*Federal Enterprise Architecture Framework, Version 1.1, September 1999*."

The seven components or phases of Dr. Spewak's EAP methodology are shown in the adjacent figure in the form of a layered wedding cake representing a specific focus at each layer. The top layer formulates the planning initiation and statement of principles for the project. The Department's published *Computer and Business Systems Architecture Framework Plan* documents the project initiation phase. The second layer depicts the "*as is*" business and technology environments. "*To be*" data, application and technology architectures are the focus of the third layer. The bottom layer represents the implementation/migration strategy.



This report and the Information Resource Catalog (IRC) data base, document and describe information systems and technology platforms currently in use or planned within the Indian trust management community.

IRC Development Process

The Trust Management Workgroup is responsible for completing the seven phases outlined by the EAP methodology. Each Bureau/Office, responsible for trust management functions, is represented on the workgroup. To assist with documenting, organizing, analyzing and storing the various data sets and associated relationships for all phases of the methodology, the workgroup is using an integrated tool-set specifically developed for Dr. Spewak's methodology.

The Tool Administrator, Stephen Adams (Bureau of Land Management) provided a copy of the tool to each member of the workgroup. A combination of approaches was used to gather the initial set of IRC data. Members from the Bureau of Indian Affairs (BIA), Office of the Special Trustee (OST), Bureau of Land Management (BLM), and the Office of the Chief Information Officer met for two days in a workgroup session to capture BIA systems data. The Minerals Management Service (MMS), the Office of Hearings and Appeals (OHA), OST, and BLM independently captured IRC data for their respective systems. Each Bureau/Office forwarded a copy of the database to the Tools Administrator

for consolidation and creation of a master IRC database. The IRC System List attached as Appendix I was generated from the master database.

During the current systems technology phase, several system and design diagrams were identified and samples are provided in Appendices II and II. These diagrams will become useful in the near future to help the workgroup complete the data, application, and technology architecture tasks.

IRC Maintenance

It is important to note that the IRC will continually be updated during the duration of the architecture project. For example, tying activities or functions to technology elements or systems is best accomplished after the business model has been finalized. This phase of the project is scheduled for completion by October 1, 2000. Additionally, future work on the business model and data and application architectures will lead to identification of current information resources omitted during this initial phase.

During the project phase, updates to the IRC shall be submitted to the respective Bureau/Office contacts listed below. Bureau/Office representatives will forward approved updates to the Tools Administrator for consolidation into the master database.

Bureau/Office	**Name**	**Telephone**
OST	Ron Shepherd	202-208-4866
BIA	Mike Jones	202-208-6691
OHA	Rein Heymering	801-524-5344
MMS	Jim Richards	303-231-3313
BLM	Stephen Adams	303-236-4680

Note: The final report, to be published at the conclusion of the architecture project (August, 2001) will contain detailed post-project maintenance procedures for the IRC.

Findings and Observations

The Work Group's study of trust management systems resulted in an IRC master catalog containing 70 systems/subsystems in 20 system groups.

We found in several instances that the same data is collected and stored in multiple systems within trust management processes resulting in an “stove-pipe” architecture still prevalent in many large public and private sector organizations. Maintaining the same data in several systems creates a duplication of effort and labor-intensive reconciliation and error correction work. In addition, many of the older systems are built around the “mainframe processing model.”

Several of the 70 systems/subsystems identified in the IRC are already scheduled for replacement with modern off-the-shelf, web enabled, common database, client/server, three-tier, and n-tier processing models. The recently implemented Trust Funds Accounting System (TFAS) is an example of such new technologies. Also, under development and implementing similar new technologies are the Trust Asset and Accounting Management System (TAAMS) and the re-engineered royalty collection and auditing systems. The Architecture workgroup will incorporate these on-going development efforts, as well as new technologies during the application architecture and the technology architecture tasks.

Appendix I

Information Resource Catalog (IRC)
System List

The Current Systems and Technology Database contains 70 systems/subsystems organized under 20 system groups/categories. The following listing was generated from that database.

IRC System List OST - ARCIS

System Group	Acronym	System Name	Description
OST - ARCIS			
	ARCIS	ARCIS	Siemens document imaging system. Windows NT Server back-end server running Microsoft SQL Server. Imaging software with an NT server, SQL database and optical media. OST OTLSR project. Input/source are OTLSR records. Web-enabled interface to view/retrieve IIM/Trust-related documents.

IRC System List OST - Banker's Trust

System Group	Acronym	System Name	Description
OST - Banker's Trust			
	Banker's Trust	Banker's Trust	Centralized custodial system. Hosted by Banker's Trust. When a security is purchased for investment purposes, Treasury keeps the records. This system provides verification information on the purchase of investments. Input is a TFAS interface. Output is a notification on settlements (sales) of securities. Used by the OTFM Accounting Division.

IRC System List BIA - General

System Group	Acronym	System Name	Description
BIA - General			
	Anadarko	Anadarko Download System	A system that is a front-end to LRIS developed at the Southern Plains Regional office to use and process for IRMS and the LMIS.
	MAD	Money Accounting System	A system that manages trust data for the Aberdeen area (functionality is similar to IRMS)
	OSAGE	Osage - Annuity System	A system to pay out monies to members of the Osage Tribe who are descendents of the original Head Right owners. The system makes quarterly payments for leases and producing wells to the 2,228.97393 Osage Indian headrights. This system is PC based that was written to replace the Osage Database System on the Unisys A17 mainframe.
	Power Systems - Trust	Power Systems - Trust	A system managed for several Indian tribes to manage Indian power plant operations. The income received from these power plants is deposited into Indian trust accounts.
	TAAMS	Trust Asset Accounting Management System	A client server system that consolidates functions currently in IRMS, LRIS, RDRS, etc. (Land Title, Lease Management, Trust income distribution) System is operated by Applied Tierravision/Artesia Systems as a service bureau. The TAAMS server is located in Dallas, TX.

IRC System List BIA - Integrated Records Management System

System Group	Acronym	System Name	Description
BIA - Integrated Records Management System			
	IIM	Integrated Records Management System - Individual Indian Monies	A system to track funds due to individual Indian and Tribes leasing, permits and other uses of Indian lands
	Lease Distribute	Integrated Records Management System - Lease Distribute	A payout system for leases on Indian trust lands. The Lease subsystem of IRMS is designed to maintain and report information with respect to leasing of Indian lands.
	Oil/Gas - RDRS	Integrated Records Management System - Oil and Gas	A tracking system for mineral and surface land ownership for oil and mineral leases.
	Owner	Integrated Records Management System - Owner	A system that tracks ownership of Indian tribal and trust lands. This information will assist operational personnel to make the day-to-day decisions necessary to manage their resources. The system provides an automated capabilities for, billing, income distribution, and compulation for reports.
	People	Integrated Records Management System - People	A tracking system for data on tribes and per capita payouts.
	Range	Integrated Records Management System - Lease/Range	A System for managing payouts for permits on Indian lands.

IRC System List BIA - Judgement Fund Distribution

System Group	Acronym	System Name	Description
BIA - Judgement Fund Distribution			
	Lake Funds	Lake Funds Distribution	A system that monitors usage of a manmade lake for the Muskogee Tribe. Leases for lake access generate revenue that is monitored by this application and deposited into Indian Trust accounts.

IRC System List BIA - Land Records Information System

System Group	Acronym	System Name	Description
BIA - Land Records Information System			
	LRIS	Land Records Information System	A land title system showing and tracking Indian ownership, including all right conveyed or changed over time.

IRC System List BLM - Automated Fluid Minerals

System Group	Acronym	System Name	Description
BLM - Automated Fluid Minerals			
	AFMSS	Automated Fluid Minerals Support System	AFMSS is a major computer software application that supports statutory and regulatory requirements for oil and gas development on public and Indian lands. This system is designed to support management of the oil and gas well life cycle and the fields where they are drilled. This system assists BLM in ensuring that operations are conducted in accordance with approvals, agreements, and regulatory guidelines.

IRC System List OST - Cash Link

System Group	Acronym	System Name	Description
OST - Cash Link			
	Cash Link	Cash Link	Used for U.S. Treasury reporting. A U.S. Treasury system. Riggs National Bank has the current contract. A retrieval only Treasury and FMS system used for reporting and reconciliation of Treasury deposits.

IRC System List OST - Electronic Certification System

System Group	Acronym	System Name	Description
OST - Electronic Certification System			
	ECS	Electronic Certification System	Used to transmit ACH/EFT information to Treasury Regional Dispersing. U.S. Treasury Hosted. Dial-in to Treasury EFT and send a file with ACH and check information. Receive a reconciliation information report.

IRC System List OST - Government Online Accounting Link System

System Group	Acronym	System Name	Description
OST - Government Online Accounting Link System			
	GOALS	Government Online Accounting Link System	Used to retrieve information from regional finance centers. U.S. Treasury hosted. Utilized by budget group for transfers of OPAC data which causes funds transfer in FFS. Confirmation reports are received.

IRC System List MMS - Financial Data Processing

System Group	Acronym	System Name	Description
MMS - Financial Data Processing			
	BTFU	Billing Tracking and Follow-up	Tracks bills and credits, manages follow-ups.
	CA	Cash Applications	Calculates and generates bills and reports to provide workload status
	D&D	Distribution and Disbursement	Generates EOP reports, creates journal vouchers , calculates interest, various GL processes, various reports on distribution to tribes, states, and Treasury, provides disbursement data to BLM, States and various external entities.
	DC	Debt Collection	Manages surety requests to leasing agencies and other collection activities.
	EIEP	Estimated Interest Exception Processing	Compares the estimate balance with royalty reported, calculates interest on receivable documents.
	FTEP	Financial Term Exception Processing	Determines the compliance of reported data to financial data stored in system, generate PIF problem reports
	GL	General Ledger	Maintains Deposits, Fedwire and other wire payments and OCS Lease Sales Report.
	IAEP	Improper Adjustments Exception Processing	Verifies that all adjustments to reports are properly reversed

IOREP	Indian Over-recoupments Exception Processing	Insures that payors don't over recoup
LPIEP	Late Payment Interest Exception Processing	Produces pre-bill reports, determines principal allocations for agreement for interest calculation, calculates interest on receivable
PV	Product Valuation	RVD Tracking System
RIK	Royalty In Kind	Manages the RIK program generating reports and tracking data.
RRMEP	Royalty Rate Monitoring Exception Processing	verifies the monthly rate of royalties paid
SEP	Solids Exception Processing Modules	Generates exceptions and errors on solids reports
SSTEP	State Severance Tax Exception Processing	Generates exceptions for lines containing transaction 12

IRC System List MMS - Reference Data Processing

System Group	Acronym	System Name	Description
MMS - Reference Data Processing			
	MCRD	Management of Common Reference Data	Manages payor, Lease and agreement data
	MLPD	Management of Lessee/Payor Data	Tracks lease payor relationships
	SR	Solids Research	Imaging and electronic storage application
	SR	Support/Research	Invokes client/server applications, provides access to reference data, provides access to RMP data.
	SRDM	Solids Reference Data Management	Tracks solids reference data workload
	TWW	Track Workflow and Workload	Tracks receipt of lease and agreement data.

IRC System List MMS - Royalty Data Processing

System Group	Acronym	System Name	Description
MMS - Royalty Data Processing			
	RR	Royalty Reporting	Processing of multiple job streams.

IRC System List OHA - Adjudication

System Group	Acronym	System Name	Description
OHA - Adjudication			
	Ad Hoc Adjudication	Ad Hoc Adjudication	Stand-alone paper-based system using data submitted by case files and hearings/briefs to issue decisions affecting outside parties.
	Departmental Adjudication	Departmental Adjudication	Stand-alone paper-based system using data submitted by case files and hearings/briefs to issue decisions affecting outside parties.
	Indian Board Adjudication	Indian Board Adjudication	Stand-alone paper-based system using data submitted by case files and hearings/briefs to issue decisions affecting outside parties.
	Lands Board Adjudication	Lands Board Adjudication	Stand-alone paper-based system using data submitted by case files and hearings/briefs to issue decisions affecting outside parties.
	Probate Adjudication	Probate Adjudication	Stand-alone paper-based system using data submitted by case files and hearings/briefs to issue decisions affecting outside parties.
	WELSA Adjudication	WELSA Adjudication	Stand-alone paper-based system using data submitted by case files and hearings/briefs to issue decisions affecting outside parties.

IRC System List OHA - Docketing and Reporting

System Group	Acronym	System Name	Description
OHA - Docketing and Reporting			
	Ad Hoc Docketing	Ad Hoc Docketing and Reports	Stand-alone database systems using internally generated data.
	Departmental Docketing	Departmental Docketing and Reporting	Stand-alone database systems using internally generated data.
	Indian Board Docketing	Indian Board Docketing and Reporting	Stand-alone database systems using internally generated data.
	Lands Board Docketing	Lands Board Docketing and Reporting	Stand-alone database systems using internally generated data.
	Probate Docketing	Probate Docketing and	Stand-alone database systems using internally generated data.
	WELSA Docketing	WELSA Docketing and Reporting	Stand-alone database systems using internally generated data.

IRC System List OST - Open Data Replication

System Group	Acronym	System Name	Description
OST - Open Data Replication			
	ODR	Open Data Replication	SQL-based application that parses selected fields from TFAS for previous day. COLD product running under Windows NT. An OTFM internal use ONLY system for process reporting and statistical

IRC System List OST - Pacer

System Group	Acronym	System Name	Description
OST - Pacer			
	Pacer	Pacer	Used to retrieve negotiated check information or initiate stop payment. Hosted by Financial Management Services (FMS) Reston, VA. Dial up to find out if a check has been cashed. Input is queries and online stop payments. Process is one year uncashed check information (expired checks). Output is stale check current information.

IRC System List RMP - Production Data Processing

System Group	Acronym	System Name	Description
RMP - Production Data Processing			
	AFS-PAASEP	AFS-PAAS Comparison Exception Processing	Compares royalties reported with production reported, calculates and researches differences
	ALEP	Allowance Limit Exception Processing	Insures the deductions for allowances don't exceed those entitled.
	APEP	AFS-PAAS Comparison	Compares solids royalty and production data.
	B	Billing	Used to populate other databases billing applications
	GAPC	Geothermal AFS-PAAS Comparisons	Calculates AFS-PAAS comparison for geothermals
	GPAM	Gas Plant Allocation Model	Calculates expected gas plant allocations for residue and NGL's
	LVS	Liquid Verification Program for Offshore Oil	Compares offshore oil run tickets with production lines reported.
	NILC	Non-Standard Indian Lease AFS-PAAS Comparisons	Performs AFS-PAAS comparison for Indian non-standard leases
	PMRP	PAAS management Report Production	Creates PAAS reports for analysis and management

PR	Production Reporting	Processing of multiple Job streams
SPD	Solids Production Data Management	Solids PAAS system
SRA	Stripper Rate Administration	Calculates and maintains data on stripper eligibility.
SSAPC	Sliding and Step Scale Lease AFS-PAAS Comparison	Calculates AFS-PAAS differences for sliding and step scale leases.

IRC System List OST - STRATAVision

System Group	Acronym	System Name	Description
OST - STRATAVision			
	STRATAVision	STRATAVision	FileNet's Panagon Report Manager. COLD product running under Windows NT. Report management system (repackaged FileNet software) used to store images in report format, search and/or annotate, etc. them on online optical/laser disc. OTFM hardware, licensed software. ONLY OTFM internal access.

IRC System List OST - Trust Funds Accounting System

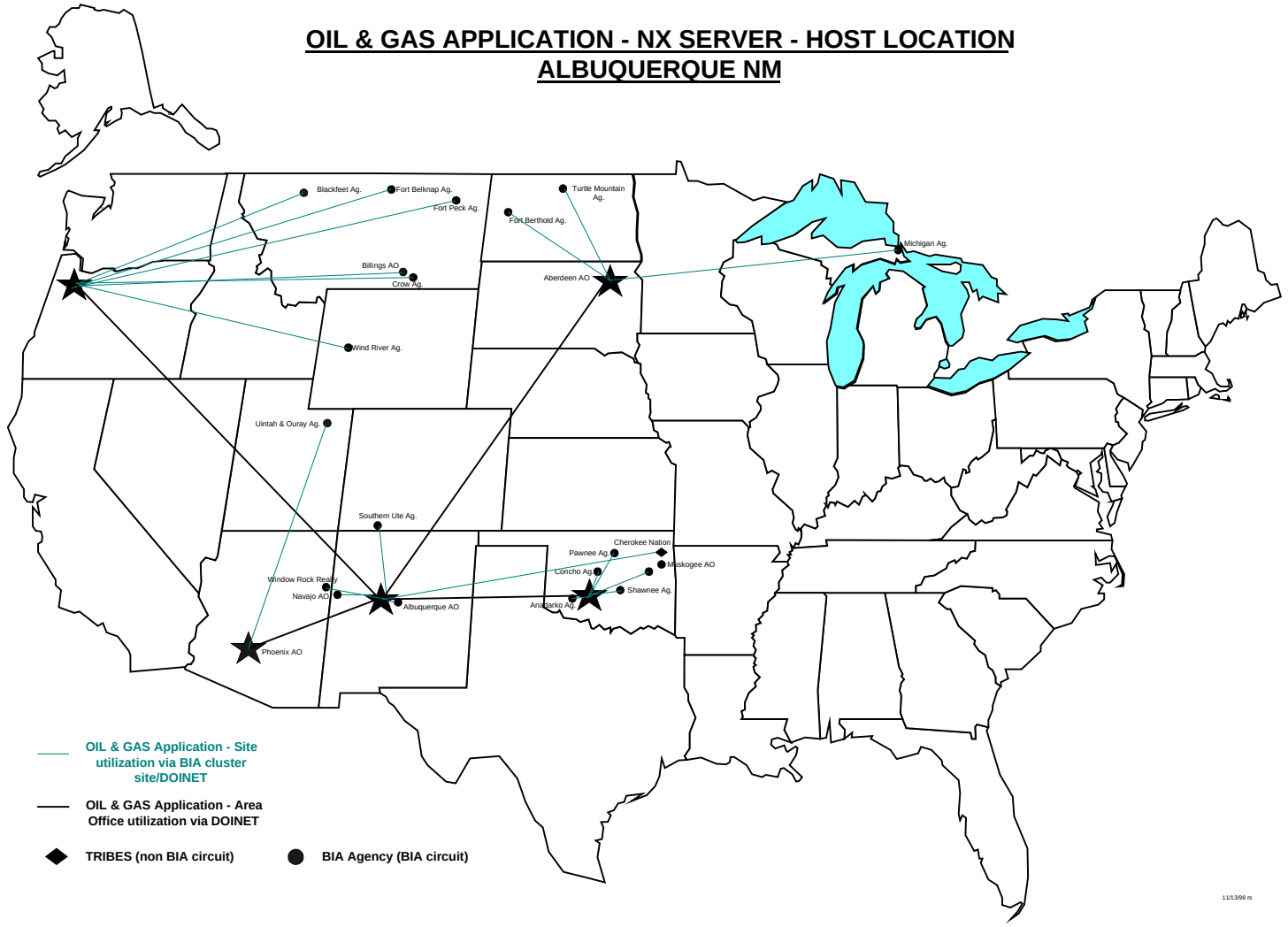
System Group	Acronym	System Name	Description
OST - Trust Funds Accounting System			
	TFAS	Trust Fund Accounting System	The Trust Funds Accounting System (TFAS) is suitable for both Tribal and Individual Indian Monies (IIM) Trust accounts nationally (approximately 285,000 accounts). TFAS provides the basic collection, accounting, investment, disbursing, and reporting functions common to commercial trust funds management operations. The system is a proven, commercially leased, centrally operated and maintained, by SEI Investments, Inc., off-the-shelf standard system served by trust data generated nationally from over 200 field locations.

Appendix II

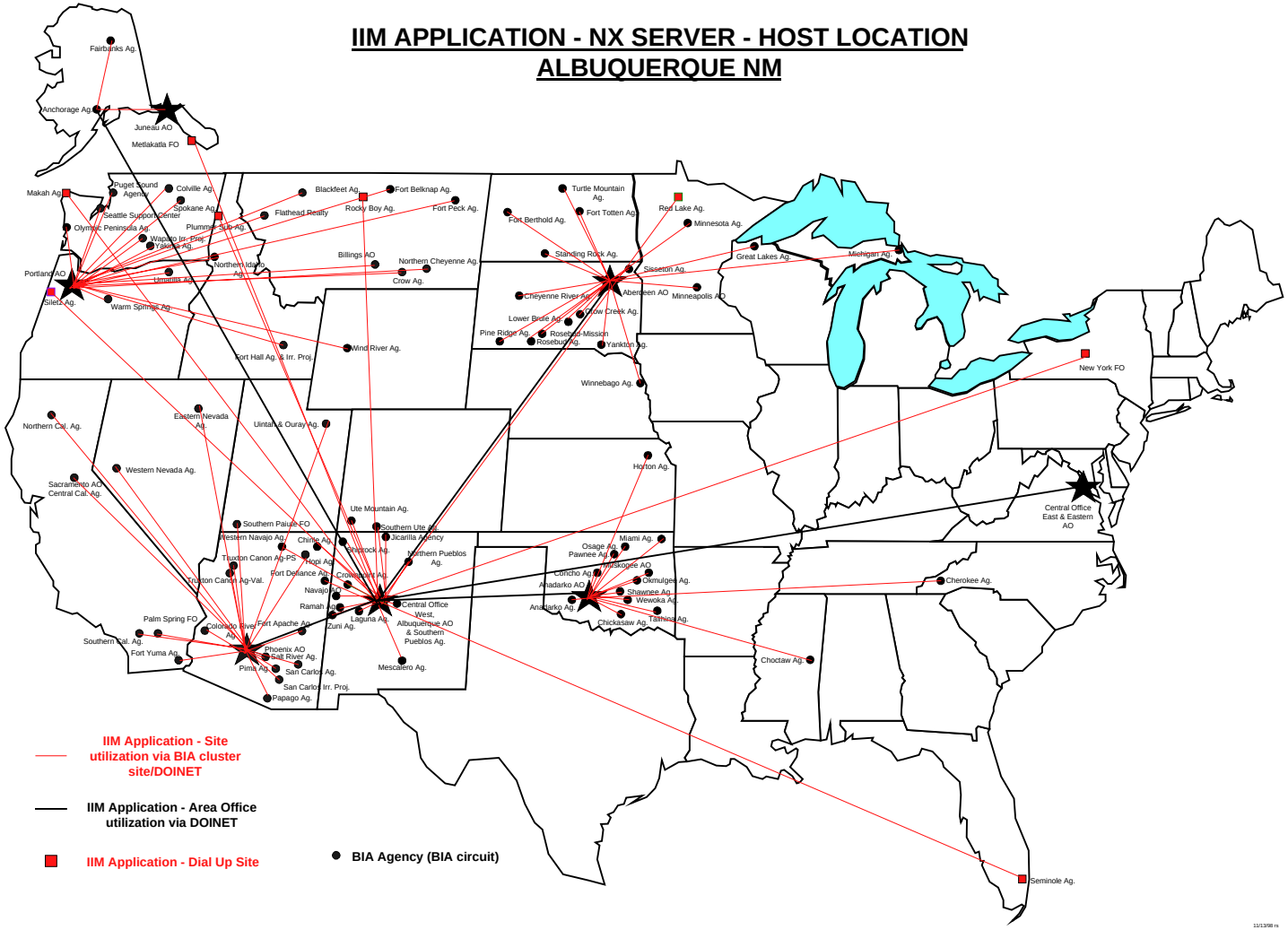
BIA Networks by Application

During the current systems and technology phase, many system and design diagrams were identified. These diagrams will be useful in the near future as the workgroup completes future data, application, and technology architectures. This Appendix contains a sample of such diagrams depicting networks supporting BIA applications.

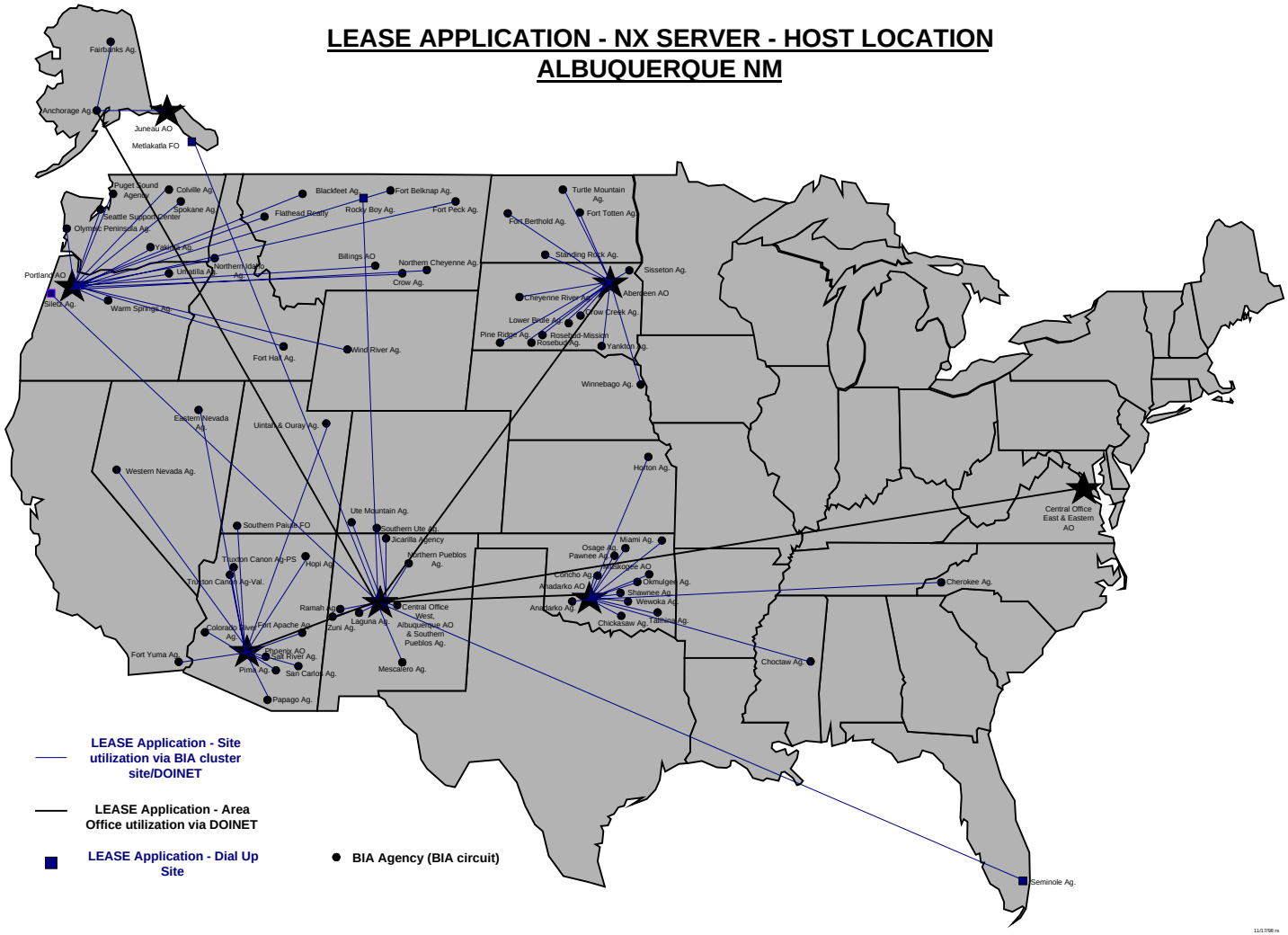
OIL & GAS APPLICATION - NX SERVER - HOST LOCATION
ALBUQUERQUE NM



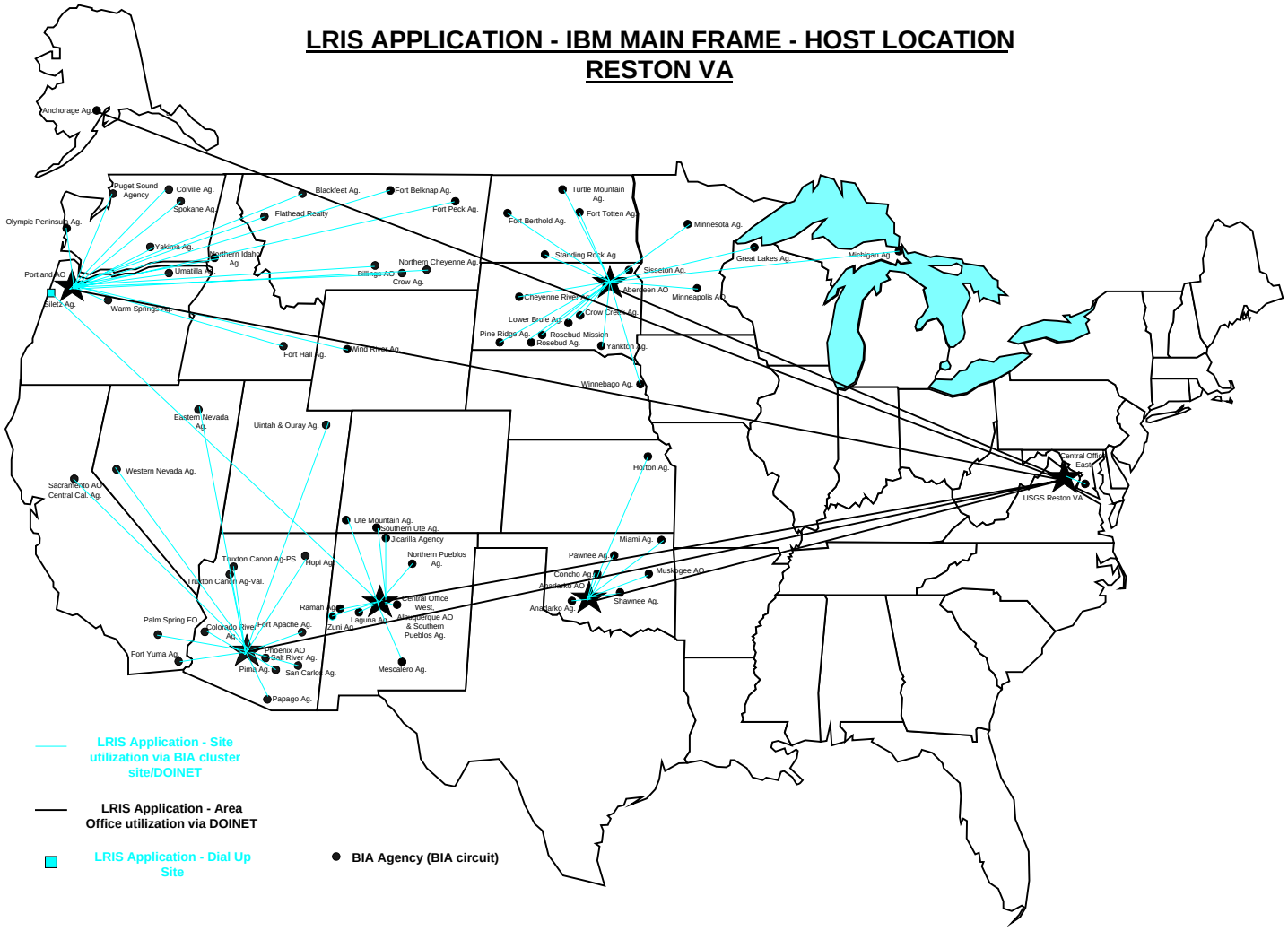
IIM APPLICATION - NX SERVER - HOST LOCATION
ALBUQUERQUE NM



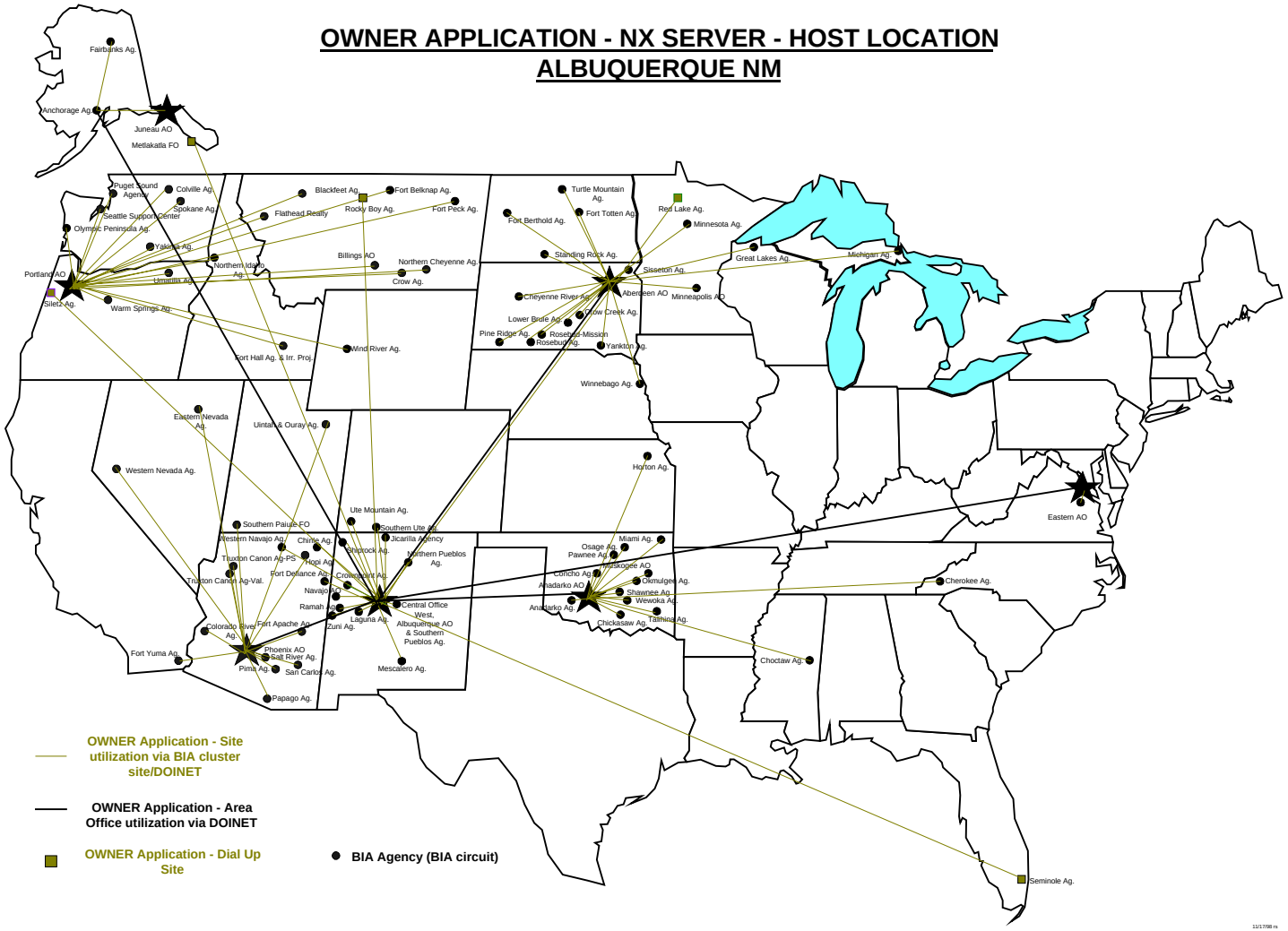
LEASE APPLICATION - NX SERVER - HOST LOCATION
ALBUQUERQUE NM



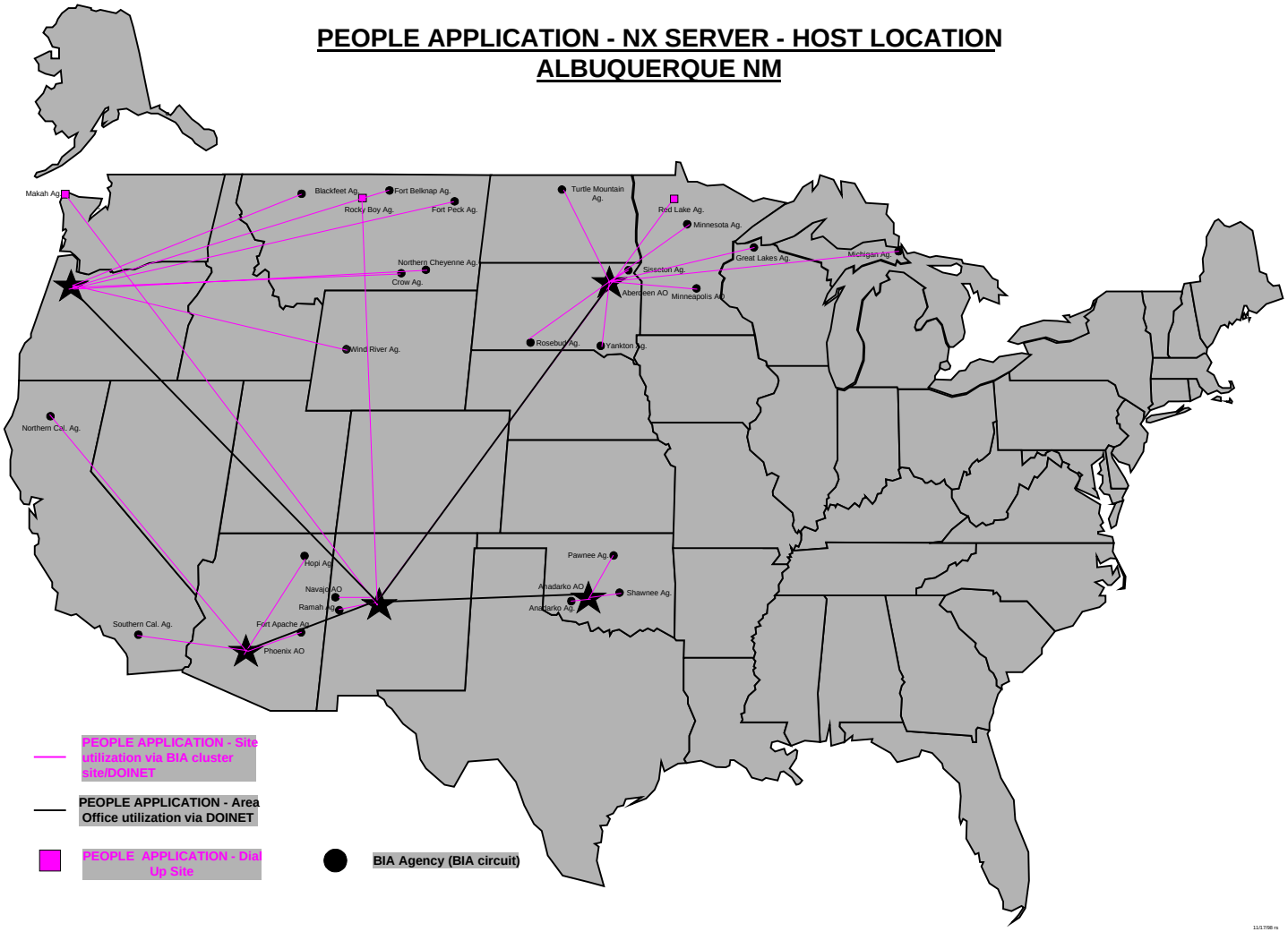
LRIS APPLICATION - IBM MAIN FRAME - HOST LOCATION
RESTON VA



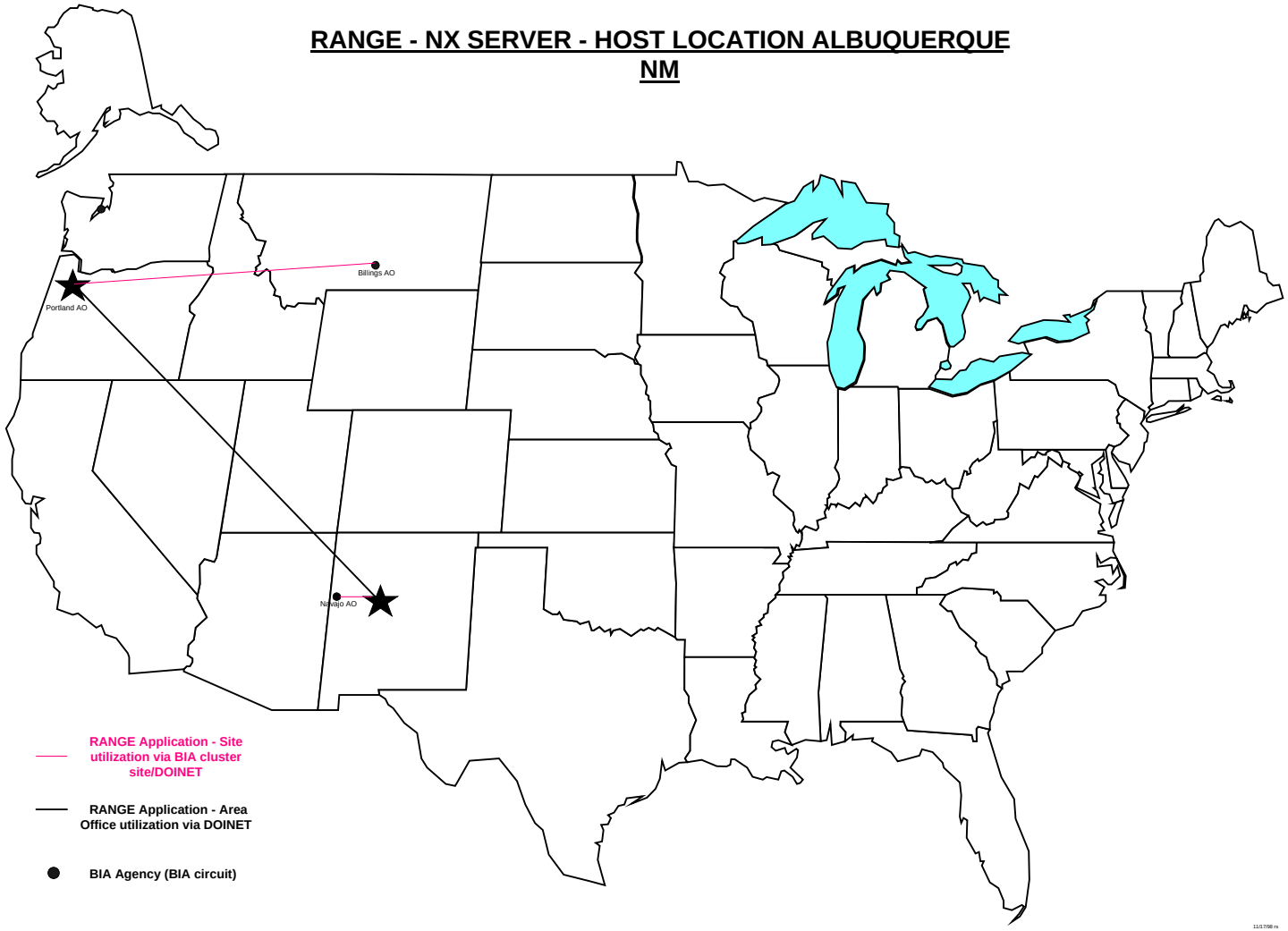
OWNER APPLICATION - NX SERVER - HOST LOCATION
ALBUQUERQUE NM



PEOPLE APPLICATION - NX SERVER - HOST LOCATION
ALBUQUERQUE NM



RANGE - NX SERVER - HOST LOCATION ALBUQUERQUE NM

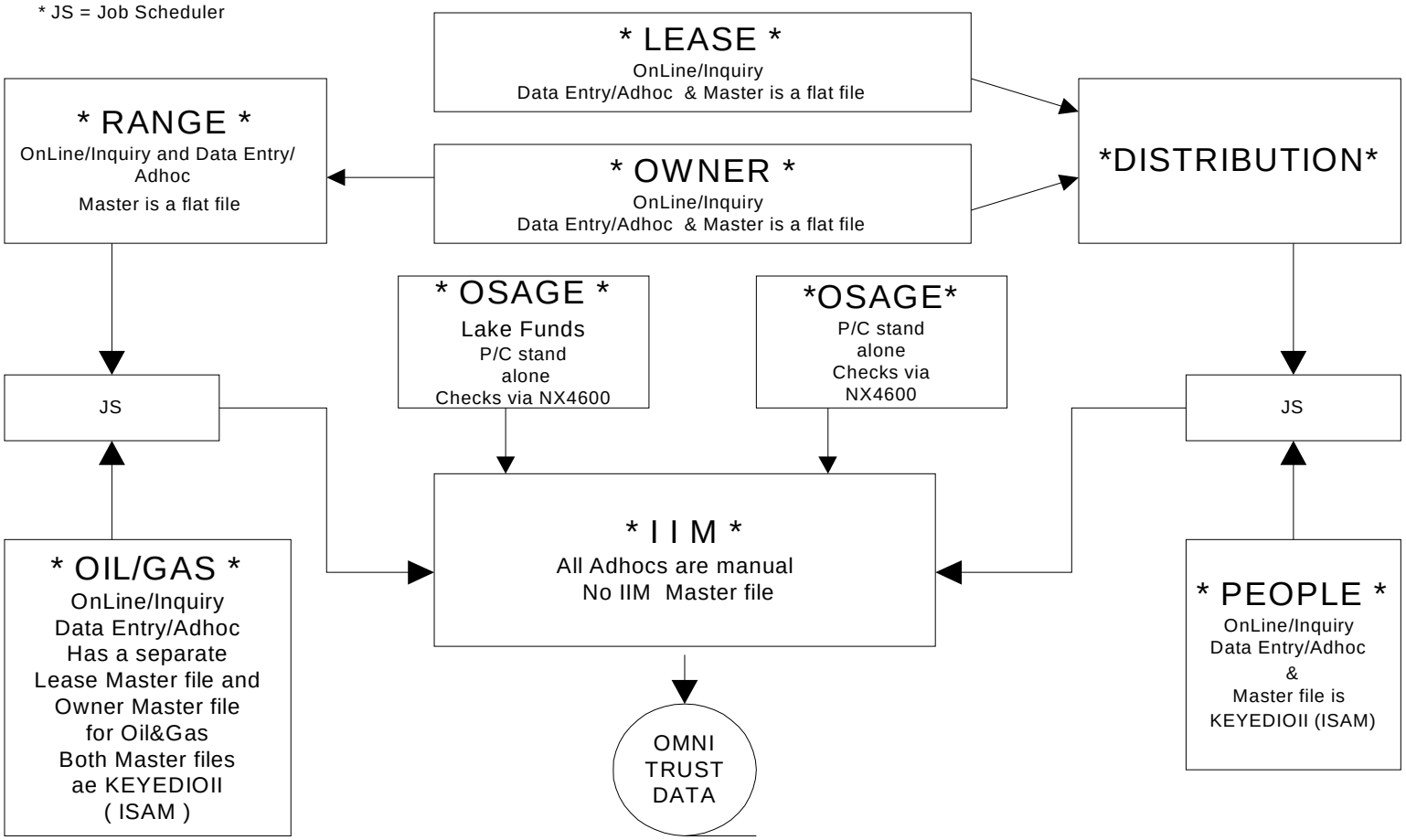


Appendix III

IRC Systems Flow Charts

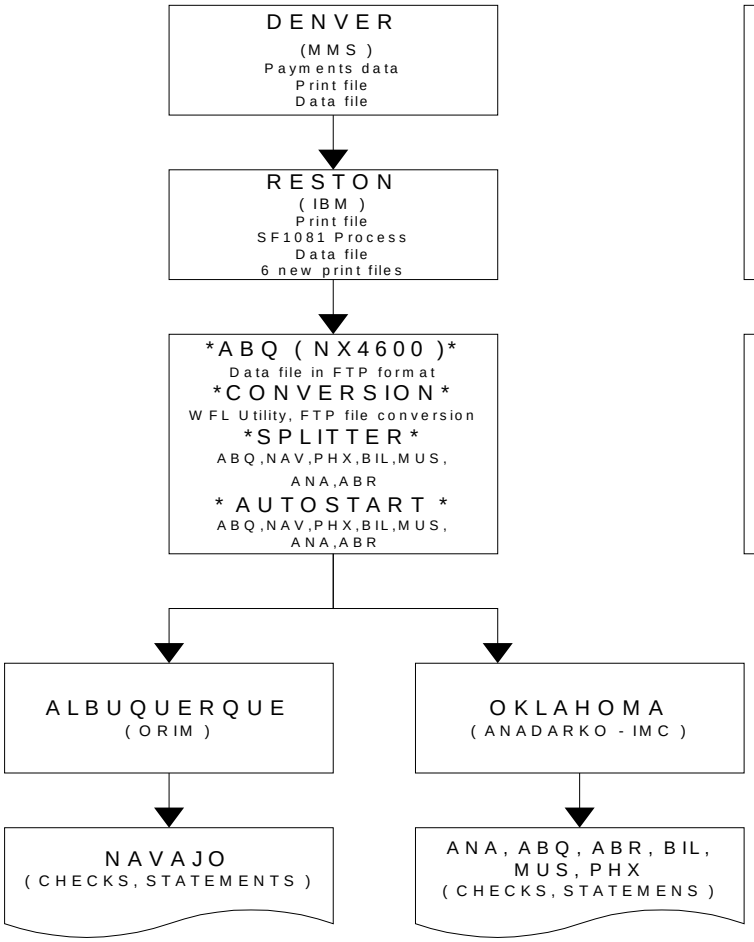
During the current systems and technology phase, many system and design diagrams were identified. These diagrams will be useful in the near future as the workgroup completes future data, application, and technology architectures. This Appendix contains a sample of such diagrams depicting BIA's Integrated Records Management System (IRMS) and the Minerals Management Service's Royalty Management Systems.

IRMS OVERVIEW



THE ENTIRE UNISYS NX4600 HAS ONE SYSTEM.
THE INTEGRATED RECORDS MANAGEMENT SYSTEM (IRMS) CONTAINS EIGHT APPLICATIONS.
SIX APPLICATIONS HAVE ON-LINE SCREENS TO PROVIDE DATA ENTRY USERS FOR DAILY UTILIZATION.
"IIMS" PROVIDES ADHOC MANUALLY. ABOVE ARROWS INTO "IIMS", INDICATE INTERFACE FLAT FILES.
TAPE INDICATES FINAL STEP FOR IRMS INTERFACING WITH OTFM.

OIL AND GAS
ROYALTY DISTRIBUTING
& REPORT SYSTEM



Oil & Gas

Programmers (Support personnel) are required access/sign-on for IBM and UNISYS systems to perform the following functions:

1) Print MMS print file and the new 6 print files generated by SF1081 process.

2) Are required to handle any of the FTP transmission problems.

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AUTOSTART

(Heart&Soul of Oil&Gas)

1) When OIL and GAS BI-monthly runs occur, they are "BATCH/OFFLINE" processing during the day while "ONLINE" windows are disabled...

2) Distribution, of the 7 total reports will be placed in a unique box and mannually picked up by OTFM.

RMP System Overview